TOEGEPASTE GEOLOGIE EN HYDROGEOLOGIE

ECONOMISCHE PRE-EVALUATIE VAN MINERALISATIES IN BOORKERNEN VAN HET MASSIEF VAN BRABANT

Bijlage 2

UNIVERSITEIT GENT

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Laboratorium
voor
Toegepaste Geologie
en
Hydrogeologie

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Bondige beschrijving van de lithologie, alteratie en structurele kenmerken van de kernen van boringen B4, B5, B6.

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Drill Hole B4 Lithology

Interval	Description
0-10.5	No core
10.5-70.25	Banded phyllite, banding represents laminated to thinly bedded quartz rich turbidite interbedded with pelagic mudstone. S0 folded on metric scale with common small scale crenulations, S0 predominately has a subvertical orientation. S1 is an axial plane cleavage, develops as kink bands in more intense crenulate zones becoming narrow zones of schistosity with an approximate 1cm spacing. Spaced S1 zones become sites of faulting of S0.
52.07-53.3	Tuff, as for B5, B6. Grey, with sand size quartzite, black pelite clasts. Foliation // S1.
53.3-70.25	Phyllite as above.
70.25-73.4	Tuff, as for B5, B6. Grey, with sand size quartzite, black pelite clasts. Foliation // S1.
73.4-76.0	Phyllite as above, core highly sheared and broken common brittle fractures.

Drill Hole B5 Lithology

Interval	Description
0-8.3	No core
8.3-8.7	Clay, weathered rock, 8.7-base of oxidation.
8.7-74.7	Banded phyllite, banding represents laminated to thinly bedded quartz rich turbidite interbedded with pelagic mudstone. S0 folded on metric scale with common small scale crenulations, S0 predominately has a subvertical orientation. S1 is an axial plane cleavage, develops as kink bands in more intense crenulate zones becoming narrow zones of schistosity with an approximate 1cm spacing. Deformation seems to increase downward, with spaced S1 zones become sites of faulting of S0. From 54.3 onward zones of close spaced to S1 from 1-2mm.
74.7-87.4	Tuff-agglomerate, sheared clasts of black pelite and quartzite in a grey fine clast rich matrix, giving the appearance of a coarse grained sst. 77.9-78.1, 79.95- banded phyllite as above. 80.1-80.4- banded phyllite, irregular corroded contacts with tuff.
87.4-148.4	Banded phyllite as before, but S1 strong with abundant transposition of S0, becoming very intense from 118.6-119.6.

Drill Hole B6 Lithology

Interval	Description
79.3-101.95	Banded phyllite, banding represents laminated to thinly bedded quartz rich turbidite interbedded with pelagic mudstone. S0 folded on metric scale with common small scale crenulations, S0 predominately has a subvertical orientation. S1 is an axial plane cleavage, develops as kink bands in more intense crenulate zones becoming narrow zones of schistosity with an approximate 1cm spacing. Spaced S1 zones become sites of faulting of S0.
101.95-103.9	Tuff-agglomerate, elongate sheared lenses of quartzite, pelite, and tuff, and grading to a sandstone like rock with sand sized clasts of quartzite and pelite, foliated along S1.
103.9-117.25	Banded phyllite as above.
117.25-118.3	Broken and ptly wd with red fe coatings, powdery sericite on fractures, 117.85 on core brecciated with angular clasts of phyllite in grey f.g. matrix, forming mosaic of partly moved clasts.
118.3-129.0	Banded phyllite as above, zone of quartz veining at base corresponds with a lithological and/or deformational change. .
129.0-161.1	Banded phyllite, folded and dislocated by strong spaced S1 development, resulting in part with the destruction of S0, with quartzite beds broken into segments to 1cm. Folds open, with general 0.5-1.0 m wavelength with superimposed crenulations, quartzitic beds become thicker downhole, and are up to 5cm thick around 139m. From 152.6m onward, So is strongly transposed by faulting along S1.

Drill Hole B4 Alteration

Interval	Description
10.2-20.8	Light brown pervasive ?sericite in pelitic parts.
20.8-25.8	Dark grey chloritic pelitic parts.
25.8-35.3	Mainly light brown pervasive ?sericite in pelitic parts.
35.3-73.4	Mainly dark grey chloritic pelitic parts.(alteration not logged in detail)
73.4-76.0	Light brown-grey moderate pervasive sericite alteration.

Drill Hole B5 Alteration

Interval	Description
8.7-39.0	Light grey to dark grey pelitic parts (chloritic?)
39.1-46.5	Yellow- brown pervasive moderate sericitic alteration.
46.5-49.5	Light grey to dark grey pelitic parts (chloritic?)
49.5-49.7	Moderate yellow pervasive sericitic alteration corresponds with qartz-pyrite veinlets
49.7-54.3	Light grey to dark grey pelitic parts (chloritic?)
54.3-54.8	Brown-tan moderate sericitic alteration.
54.8-55.8	Light grey to dark grey pelitic parts (chloritic?)
55.8-55.9	Brown-tan moderate sericitic alteration.
55.9-57.0	~50% brown sericitic alteration.
57.0-66.2	Light grey to dark grey pelitic parts (chloritic?)
66.2-74.7	Generally light brown-tan, becoming more intense darker brown from 74.3-74.6. Minor light grey chloritic 68.0-68.5,.
74.7-87.4	Cataclastic zone variably grey (chloritic?) and light yellow (weak sericitic?)
87.4-97.5	~50% of pelitic parts of core altered to tan-brown sericitic, rest is black to grey (?chloritic).
97.5-100.5	Light grey to dark grey pelitic parts (chloritic?)

100.5-107.0	Brown-orange moderate to intense sericitic alteration, alteration gradually decreasing to 107.0.
107.0-118.0	Generally light grey ?chloritic alteration, minor brown zone at ~108.5.
118.0-119.5	Yellow-brown moderate sericitic.
119.5-126.8	Light grey to dark grey pelitic parts (chloritic?)
126.8-130.5	Generally orange-brown moderate sericitite with intense orange zone 130.1-130.5.
130.5-132.8	Light grey to dark grey pelitic parts (chloritic?)
132.8-148.4	Light yellow to orange moderate-strong pervasive sericite alteration.

Drill Hole B6 Alteration.

Interval	Description
79.3-104.4	Generally dark grey (chloritic) pelitic parts.
104.4-112.8	Yellow moderate pervasive sericite alteration, becoming more intense dark brown from 109.6-112.8.
112.8-113.2	Weak
113.2-113.6	Moderate pervasive sericitic.
115.1, 115.3	Yellow alteration front crosscuts S0, S1.
115.3-116.3	Grey ?chloritic
116.3-~119.7	Light yellow moderate pervasive sericitic.
119.7-123.0	Grey ?chloritic
123.0-124.2	Yellow-brown moderate pervasive sericitic..
124.2-124.9	Grey chloritic.
124.9- 128.1	Variable yellow-brown, some strongly altered zones
129.0-161.1	Pelitic parts all brown to orange moderate to intense pervasive sericite alteration.

Drill Hole B4 Veining

Interval	Description
13.8	Pyrite veinlet, 1mm wide, 60 to cax.
14.1	1mm milky white quartzveinlets (qv's), slightly deformed, mr blebs of f.g. py, no alteration selvage around vein.
15.35	Irregular qv to 4mm, dark grey alteartion selvage < 1mm.
15.5	Irreg. qv to 5mm, mr py in centre, 45 to cax. no alteration selvage.
15.65-15.75	Irreg. qv ~ 45 to cax, white milky qtz, rimmed by <1mm c.g.lt. grn mica, also fills in hairline stylolitic fracture in centre of vein, and in clotty zones throughout vein, no sulphides.
15.9	5mm qv, no sulphides, irregular margins.
17.8	5mm irreg milky white qv, ~80 to cax, no sulphides.
18.0-18.3	Milky white qv, vuggy with well formed qtz crystals to 1cm and light green mica growing in cavity. Elsewhere in vein brittle fracture surfaces and vein margins are filled with coarse light green mica. No sulphides.
18.3-20.8	Veins similar to above, irregular scolloped margins with irregular areas of white to green mica, no alteration selvage.
24.7	Milky white 1cm qv, irregular, deformed, no sulphides.
26.0-26.3	Similar irregular qv's to 3cm, clots of light green mica and lesser biotite, with a single well formed zircon.
27.0-28.0	Py veins/v'lets, //S1, partly replacing pelites.

29.8	Similar qv, lt green mica as before.
30.6	Similar qv's, irregular 1 vug with light green mica and well formed qtz.
35.2-35.3	Milky white qv, planar, 45 to cax, no sulphides.
40.0-40.3	Milky white qv's, planar 50-55 to cax, mr py in one vlet.
69.5-70.25	Milky white qv, in part vuggy with 1cm well formed qtz crystals, no mica.

Drill Hole B5 Veining

Interval	Description
32.4	Milky white 2mm qv, biotite in centre near vuggy area, no alteration selvage, planar, // S1.
33.0, 37.3	1mm, 3mm qv, unmineralised, planar, // S1.
38.2-38.3	4 qv'lets with cm alteration halo.
38.8-39.1	Same, with py, unidentified red mineral. Increasing veining below.
39.3-40.3	20 qtz-py v'lets/mtr,
40.3-43.1	10 v'lets as above / mtr.
43.1-44.1	3 v'lets as above/mtr.
45.1-46.1	1 v'let / mtr.
46.1-47.1	3 v'let /mtr
47.1-48.1	2 v'let / mtr.
49.5-49.7	10 qtz-py v'lets // S1.
60.7-60.75	Brittle vein, ~10 to cax, ~5mm wide associated with soft fault pug zone.
62.7-62.8	Irregular white milky qv, green c.g. mica in blotches and rims to vein.
72.4-72.5	Irregular qv, vuggy, lt green mica blotches.

89.9-90.0	Milky white qv, lt green mica blotches.
93.0-93.1	Puggy fault zone, crumbly white ?sericite.
94.2	Two 2mm v'lets, vuggy with coarse qtz xtals.
130.1-130.5	Common irregular mm qvs, no sulphides.
132.8-148.4	c.g. py v'lets to 2mm, irregular or // S1, 2 or 3 / mtr.
146	~2cm milky white qv with light green c.g. mica blotches.

Drill Hole B6 Veining

Interval	Description
79.3-82.8	Py v'lets // S1 and also in irregular crosscutting fractures, vlets to ~3mm.
82.8-110.0	Still abundant py replacement and veining, v'lets and replacement generally // S1 to 5% of rock. @107.1 S1 strongly disrupted with a cpy clot ~1cm in vein.
110.6	15mm qv, irregular, ~45 to cax, with discontinuous cpy v'lets crosscutting, total sulphides << 1%.
118.3-118.6	Mr irregular py v'lets filled with fine breccia.
118.6	Two 5cm qvs, irregular margins roughly 70 to cax, with blotch light green mica clots and v'lets filling brittle fractures in vein.
118.6-119.4	Pyrite v'lets fill spaced S1 zones.
123.1	Qv, 15mm, 80 to cax, coarse secondary biotite clots and rare lt green mica, no alteration, no sulphides.
127.5-127.7	Py rare, in irregular fracture fills to 3mm.
127.95-128.1	3 irregular unmin qv's, ~70 to cax, each ~1cm thick occupy late brittle fractures.
128.6-129.0	Zone of irregular unmin qv's up to 10cm, infill late brittle fractures.
134.7	Py v'let, ~5mm, // S0, and some replacement of pelite.
140.7-141.0	Qv, unmineralized, coarsely crystalline, vuggy areas filled with light green mica, mica forms thin rim around veins.

141.8	Qv ~1cm, planar, 40 to cax, mr py << 1%.
160.0-161.0	Mr py v'lets to 2mm // S1, spaced 1 per 10cm.

Drill Hole B4 Structure

To	Bedding	Cleavage	To	Bedding	Cleavage
11	Irregular		39	open small scale folds	60 to cax
12	45 to cax, irregular		40		65 to cax
13	30 to cax		41	complex small scale folds	62 to cax.
14	80 to cax		42		
15	20 to cax		43		
16	folded on small scale		44	Same	55 to cax.
17	60 to // to cax.		45	complex small scale folds	55 to cax.
18	20 to // to cax.		46		65 to cax
19	20-70 to cax		47		
20	70 to cax.		48	20 to cax.	60 to cax
21	folded on 10cm scale		49	20 to cax	
23	70 to cax.		51	55 to cax	55 to cax.
24	45 to cax		52		progressive stronger S1 results in complete dislocation of S0.
25			53	20 to cax	
26			54	tight folds	
27	45 to cax		55	parallel cax	43, 50 to cax.
28	20 to cax.		56	parallel cax	45 to cax.
29	45 to cax		57	45-// to cax.	
30	50 to cax, folded		58	folded, 60 to cax.	
31	30 to cax		59	60 to cax.	
32	20 to cax		60	folded-90 to cax.	
33	folded		61	generally // cax.	
34	tight folding		62		55 to cax.
35	tight folding		63	70 to cax.	
36	tight folding		64	folded on cm scale.	
37	tight folding		65	parallel cax	
38	open small scale folds		66	45 to cax	
			67	folded, // cax.	65 to cax.

Drill Hole B5 Orientation of S1

Interval	Cleavage to Cax	Interval	Cleavage to Cax
14.0	70	85.6	64
21.0	70	89.0	67
30.5	71	101.2	67
39.3	68	119.0	67
48.1	58	128.0	81
65.0	64	135.5	66
79.0	68	139.0	70

Drill Hole B6 Orientation of S1

Interval	Cleavage to Cax	Interval	Cleavage to Cax
87.8	53	142	72
94	75	149.7	67
96.4	50	155.5	55
108	75	161	58
127	60		